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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,650	04/21/2006	Bradley Teegarden	20750-034US1 004.US3.PCT	5391

26204 7590 04/01/2009

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EXAMINER	
YOUNG, SHAWQUIA	
ART UNIT	PAPER NUMBER
1626	

NOTIFICATION DATE	DELIVERY MODE
04/01/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

Office Action Summary	Application No.	Applicant(s)	
	10/540,650	TEEGARDEN ET AL.	
	Examiner	Art Unit	
	SHAWQUIA YOUNG	1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *98-122* is/are pending in the application.

4a) Of the above claim(s) *118-122* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *98-117* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 98-122 are currently pending in the instant application. Claims 98-117 are rejected and claims 118-122 are withdrawn from consideration in this Office Action.

I. *Response to Arguments*

Applicants' arguments, filed on December 18, 2008, have been fully considered but are not persuasive for the rejection of claims 98-117 under 35 USC 112, first paragraph as not being enabled for a solvate or hydrate of a compound of formula A and the rejection of claims 99 and 112-115 under 35 USC 112, second paragraph as being indefinite for the phrase "having the formula". Applicants traverse the scope of enablement rejection of claims 98-117. Applicants argue that absolute predictability is not required in order to satisfy the enablement requirement. Applicants further argue that even if solvate formation were somewhat unpredictable, as the Examiner contends, the claims would still satisfy the enablement requirement because such experimentation as might be required to prepare salts or hydrates of the compounds of the invention would be routine and well within the capacity of the skilled artisan and would not be undue as is demonstrated by the references cited below.

However the Examiner wants to point out that in one of the references Applicants' filed with the remarks states that "...the prediction of packing structures for multicomponent (e.g. solvates, hydrates, co-crystals) or ionic systems is not yet possible. Due to these limitations, solid form discovery remains an experimental exercise where manual screening methods are employed to explore form diversity of a

compound" (See Morissette, et al. page 277). As discussed in the Vippagunta, et al. reference, it has been estimated that approximately one-third of the pharmaceutically active substances are capable of forming crystalline hydrates. Predicting the formation of solvates or hydrates of a compound and the number of molecules of water or solvent incorporated into the crystal lattice of a compound is complex and difficult. Each solid compound responds uniquely to the possible formation of solvates or hydrates and hence generalizations cannot be made for a series of related compounds. Both of these references support the unpredictability of the formation of hydrates and solvates and Applicants have failed to provide support that shows that their novel compounds can indeed form hydrates and solvates.

The Examiner wants to further state that the undue experimentation would be that one of ordinary skill in the art would have to determine which compounds (out of the numerous compound embraced by claim 98) with which specific solvate and under what specific reaction conditions would form a solvate and/or hydrate, if any. The burden is placed on Applicants to provide the support that their "novel" compounds will form solvates and/or hydrates. The Examiner has proven the unpredictability in the art for the formation of solvates and hydrates and has shown that this would require undue experimentation to select at least one compound out of the numerous species that are embraced by the structure of formula A and determine what solvent under what reaction condition would form a solvate and/or hydrate, if any. Thus the Examiner has maintained the rejection of claims 98-117 under 35 USC 112, first paragraph as not being enabled for a hydrate or solvate of a compound of formula (A).

Applicants traverse the rejection of claims 99 and 112-115 under 35 USC 112, second paragraph as being indefinite for the phrase "having the formula". Applicants argue that the term "having" is not necessarily considered open-ended and that the use of open-ended language is expressly sanctioned in the MPEP and then give the example of "comprising". The Examiner agrees with Applicants that the term "having" can be synonymous with the term "comprising" (as seen in the MPEP) when not clearly defined in the specification. The Examiner also agrees that the term "having" must be considered in the context in which it is used. In the instant application, the term "having" is being used to claim a chemical compound but a chemical compound cannot be open-ended, but must be claimed with precision. The Examiner wants to emphasize that since Applicants have failed to clearly define the term "having" in relation to the instant invention then the term "having" is given its broadest interpretation. Further, Applicants' reference to the use of the term "having" in relation to a house is not a sufficient argument that the phrase "having a formula" is considered open-ended when claiming a Markush-type compound claim. Applicants have failed to define in the specification that the term "having" is not considered open-ended and thus the Examiner has maintained the rejection of claims99 and 112-115 under 35 USC 112, second paragraph as being indefinite for failing to distinctly claim the subject matter which applicants regard as the invention for the phrase "having the formula".

II. *Rejection(s)*

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 98-117 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a compound of formula (A) or pharmaceutically acceptable salts of said compound does not reasonably provide enablement for a **solvate** or a **hydrate** of a compound of formula (A). The specification does not provide sufficient guidance nor does it enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

As stated in the MPEP 2164.01 (a), "There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is "undue."

In *In re Wands*, 8 USPQ2d 1400 (1988), factors to be considered in determining whether a disclosure meets the enablement requirement of 35 U.S.C. 112, first paragraph, have need described. They are:

1. the nature of the invention,
2. the state of the prior art,
3. the predictability or lack thereof in the art,
4. the amount of direction or guidance present,
5. the presence or absence of working examples,
6. the breadth of the claims,

7. the quantity of experimentation needed, and
8. the level of the skill in the art.

In the instant case

The nature of the invention

The nature of the invention is a compound of formula (A), or a pharmaceutically acceptable salt of said compound. There is no teaching of solvates or hydrates of the compounds of Formula A in the specification.

The state of the prior art and predictability or lack thereof in the art

It is the state of the prior art that the term "solvate" found in the claims is defined as a compound formed by solvation (the combination of solvent molecules with molecules or ions of the solute. It has been estimated that approximately one-third of the pharmaceutically active substances are capable of forming crystalline hydrates. Predicting the formation of solvates or hydrates of a compound and the number of molecules of water or solvent incorporated into the crystal lattice of a compound is complex and difficult. Each solid compound responds uniquely to the possible formation of solvates or hydrates and hence generalizations cannot be made for a series of related compound (See *Vippagunta, et al.*)

The scope of "solvate" is not adequately enabled or defined. Applicants provide no guidance as how the compounds are made more active *in vivo*. Solvates and hydrates cannot always be predicted and therefore are not capable of being claimed if the applicant cannot properly enable a particular hydrate or solvate.

The amount of direction or guidance present and the presence or absence of

working examples

There is no direction or guidance present in the specification or working examples present in the specification are that defines or relates to what solvates are being included in the elected invention.

The breadth of the claims

The breadth of the claims is a compound of formula A or a pharmaceutically acceptable salt, solvate or hydrate of said compound.

The quantity of experimentation needed and the level of the skill in the art

While the level of the skill in the pharmaceutical art is high, the quantity of experimentation needed is undue experimentation. One of skill in the art would need to prepare compounds with various solvents without any direction as to what compounds form solvates with which solvents.

The level of skill in the art is high without showing or guidance as to how to make solvates of a compound of formula (A) it would require undue experimentation to figure out the solvents, temperatures and reaction times that would provide solvates of the above compounds.

To overcome this objection, Applicant should submit an amendment deleting the term "solvates".

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 99, and 112-115 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the phrase "having formula" renders the products indefinite as the phrase "having formula" can be considered open-ended language when not clearly defined and therefore is including additional subject matter in the compounds of the formula A that is not described in the instant specification and is not particularly pointed out or distinctly claimed. A claim to a chemical compound cannot be open-ended, but must be claimed with precision. This rejection can be overcome by amending the phrase "having formula" to read "of structure" in claims 99, 112 and 114.

III. *Objections*

Claim Objection-Non Elected Subject Matter

Claims 98-117 are objected to as containing non-elected subject matter. To overcome this objection, Applicant should submit an amendment deleting the non-elected subject matter.

IV. *Conclusion*

THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shawquia Young whose telephone number is 571-272-9043. The examiner can normally be reached on 7:00 AM-3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph McKane can be reached on 571-272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Shawquia Young/

Examiner, Art Unit 1626

/Rebecca L Anderson/

Primary Examiner, Art Unit 1626